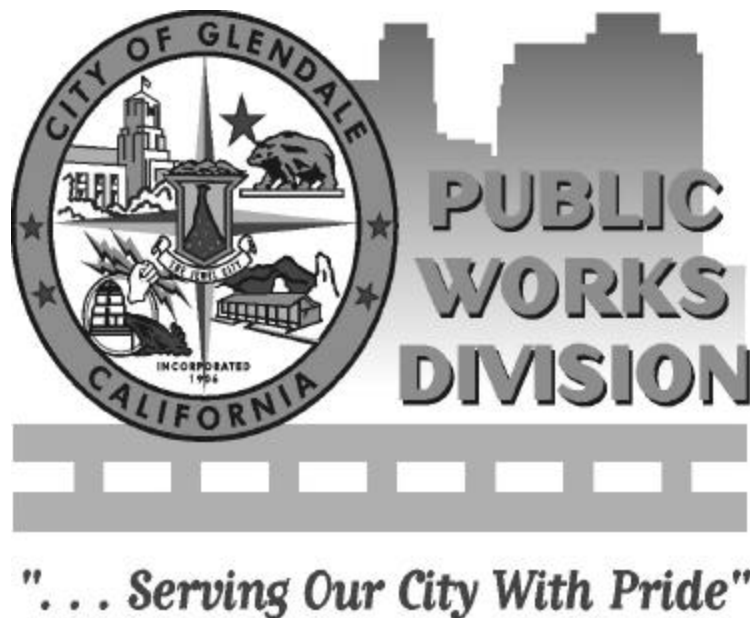


City of Glendale Neighborhood Traffic Calming Program



Prepared by

**Public Works Division
Traffic & Transportation Section**

November 2004

NEIGHBORHOOD TRAFFIC CALMING PROGRAM

OBJECTIVE

The overall objective of the City of Glendale Neighborhood Traffic Calming Program ("Traffic Calming Program") is to utilize, where appropriate, traffic calming measures and devices to improve the quality of life in residential neighborhoods by reducing significant and adverse impacts caused by vehicular traffic. Traffic calming is the application of traffic control strategies to address traffic-related concerns in residential areas, including the reduction of vehicular travel speeds; the reduction of accident frequency and severity; and the discouragement of non-local, cut-through vehicular traffic on residential streets. Neighborhood traffic control strategies can include engineering, enforcement, and/or education components.

GOALS

The primary goals of the Traffic Calming Program are to:

- Reduce demonstrated accident patterns;
- Eliminate or discourage non-local, cut-through traffic within residential neighborhoods;
- Achieve compliance with the legal speed limit;
- Enhance pedestrian safety;
- Minimize the diversion of traffic from one residential street to another;
- Ensure citizen participation in the review and development of traffic calming strategies;
- Reduce the need for traffic enforcement by Police; and
- Avoid significant and adverse impacts on emergency response vehicles and public transit vehicles resulting from the implementation of traffic calming strategies.

OVERVIEW

The Traffic Calming Program is designed to ensure that a residential neighborhood with demonstrated traffic-related issues and sufficient resident support has access to neighborhood traffic calming. As illustrated on Exhibit A, the following 10 steps comprise this process:

- Step 1: Identify Candidate Street
- Step 2: Conduct Screening Evaluation
- Step 3: Conduct Preliminary Engineering Study
- Step 4: Meet With Residents (Optional)
- Step 5: Develop Traffic Calming Project Alternative(s)
- Step 6: Meet With Residents (Optional)
- Step 7: Circulate Petition
- Step 8: Conduct Public Hearing With Transportation & Parking Commission
- Step 9: Include Traffic Calming Project on City-Wide Traffic Calming Priority List
- Step 10: Install Traffic Calming Project

These individual steps are described in detail in the following section.

PROCESS

Exhibit A graphically illustrates the 10 steps comprising the process required for the installation of traffic calming measures and devices. Each step is described below.

Step 1: Identify Candidate Street

Neighborhood traffic calming shall be considered based on the following:

- The Public Works Division, Traffic & Transportation Section's receipt of a written request for traffic calming on one or more streets (or within an entire neighborhood) from one or more residents; and/or
- Unrelated to the preceding mechanism, the Traffic & Transportation Section's identification of traffic-related problems on a residential street that would be susceptible to correction through the use of traffic calming.

Step 2: Conduct Screening Evaluation

The Traffic & Transportation Section will review a request (refer to Step 1 above) to determine whether the request should be addressed as part of the Section's normal traffic engineering review process or if the request qualifies for consideration under the Traffic Calming Program.

Neighborhood traffic calming shall be considered only for local streets, neighborhood collector streets, and community collector streets designated in the current *City of Glendale Circulation Element of the General Plan*; **and** if the street lies within a "residence district" as defined in State of California 1996 Vehicle Code, Section 515, p. 32, i.e., "A 'residence district' is that portion of a highway and the property contiguous thereto, other than a business district, (a) upon one side of which highway, within a distance of a quarter of a mile, the contiguous property fronting thereon is occupied by 13 or more separate dwelling houses or business structures, or (b) upon both sides of which highway, collectively, within a distance of a quarter of a mile, the contiguous property fronting thereon is occupied by 16 or more separate dwelling houses or business structures. A residence district may be longer than one-quarter of a mile if the above ratio of separate dwelling houses or business structures to the length of the highway exists."

If the preceding criteria are not satisfied, the Traffic & Transportation Section will conclude that the street in question does not qualify for traffic calming and instead address the requestor's concerns through the Section's normal traffic engineering review process. However, should the requestor disagree with this conclusion, an appeal to the city's Transportation & Parking Commission may be made.

Step 3: Conduct Engineering Study

The Traffic & Transportation Section will conduct an engineering study of the candidate street. The engineering study will include the following elements:

- Consult Police and Fire Departments. The Police and Fire departments will be consulted to determine if the candidate street is a primary emergency response route or otherwise provides critical access. If this is the case, the Traffic & Transportation Section will ensure that any potential traffic calming measures and devices be limited to those that would not significantly and adversely impact response times.

- **Identify Public Transit Service.** If the candidate street currently accommodates public transit service, the Traffic & Transportation Section will ensure that any potential traffic calming measures and devices be limited to those that would not significantly and adversely impact transit vehicles.
- **Identify Truck Service.** If the candidate street currently accommodates essential truck service, the Traffic & Transportation Section will ensure that any potential traffic calming measures and devices be limited to those that would not significantly and adversely impact truck deliveries.
- **Collect Traffic Data/Information.** Depending upon the circumstances and nature of the request, staff will collect the following data/information:
 - Existing street geometrics and operations, e.g., pavement condition, pavement width, presence of horizontal and vertical curves affecting sight distance, driveway locations, number of travel lanes, intersection controls, on-street parking availability, posted speed limit, etc.;
 - 24-hour traffic counts collected on an average weekday;
 - Machine-based speed surveys on an average weekday;
 - Presence of public transit vehicles;
 - Presence of trucks; and/or
 - Traffic accident data for the three most recent years.

As part of this engineering study, the Traffic & Transportation Section will consider the installation of traffic calming measures and devices *if and only if* a candidate street satisfies the following traffic-related thresholds:

- The street accommodates at least 1,000 vehicles but not more than 10,000 vehicles on an average weekday, exhibits an 85th-percentile travel speed of 30 MPH or greater on an average weekday, and has a legal speed limit of 25 MPH. However, if the 85th-percentile travel speed is 35 MPH or greater on an average weekday (with a legal speed limit of 25 MPH), said volume criteria are no longer in effect.

Based upon the data/information and traffic calming thresholds described above, the Traffic & Transportation Section will make a determination as to whether the request for traffic calming on a candidate street satisfies the Traffic Calming Program's minimum criteria. The results of this engineering study will be conveyed to the requestor.

Step 4: Meet With Residents (Optional)

Following the completion of Step 3 ("Conduct Engineering Analysis"), it may be beneficial for the Traffic & Transportation Section and local residents to meet to discuss the results of said analysis and subsequent steps in the process. Further, such a meeting also may be attended by other city staff (e.g., representatives from the Police and Fire departments) and/or a member of the city's Transportation & Parking Commission.

Step 5: Develop Traffic Calming Project Alternative(s)

Based upon the results of the preceding steps, the Traffic & Transportation Section will develop a traffic calming project alternative(s) for consideration by the requesting residents. The advantages and disadvantages of the alternative(s) will be conveyed to the residents, with the end result being the residents' selection of an alternative to circulate for approval by at least 75 percent of the effected residences (discussed in Step 7 below). As deemed most appropriate by the Traffic

& Transportation Section, the project alternative(s) could include one or more of the following traffic calming measures and devices:

- Provide selective speed enforcement by Police ;
- Deploy radar trailer;
- Install truck restrictions;
- Provide painted edge lines on the street pavement;
- Install speed humps;
- Install speed lumps (where feasible on primary emergency response routes);
- Install traffic circles;
- Install curb "bumpouts" ("chokers") at intersections and/or mid-block locations; and
- Install diverters (full or partial) at intersections.

Step 6: Meet With Residents (Optional)

Following the completion of Step 5 ("Develop Traffic Calming Project Alternatives(s)"), it may be beneficial for the Traffic & Transportation Section and local residents to meet to discuss the traffic calming alternative(s) developed by staff for their consideration. Further, such a meeting also may be attended by other city staff (e.g., representatives from the Police and Fire departments) and/or a member of the city's Transportation & Parking Commission. The purpose of this meeting will be to assist the residents in selecting a project alternative to circulate for approval by at least 75 percent of the effected residences (discussed in Step 7 below).

Step 7: Circulate Petition

Following the selection of a traffic calming project alternative by the requesting residents (refer to Steps 5 and 6 above), the Traffic & Transportation Section will provide the requesting residents with a petition form to be circulated to residences on the effected street. Once completed, the petition shall be returned to the Traffic & Transportation Section for processing.

In order to demonstrate adequate support for the proposed traffic calming project, the petition shall be signed by one adult resident from a minimum of 75 percent of the dwelling units on the effected street. For the purpose of this Traffic Calming Program, a "dwelling unit" shall mean a residence (single family or multi family) fronting upon or having direct access to the street in question by means of a front door, a side door, or a driveway (or any combination thereof). **Non-residential uses are to be excluded in this petition process.**

With respect to apartment buildings, the apartment manager or apartment owner may sign the petition on behalf of all of the dwellings units in the building/complex. Similarly, **with respect to condominiums and townhouses**, an executive officer of the homeowners association board may sign the petition on behalf of all of the dwelling units in the entire building/complex, including with his/her signature of support written evidence of the homeowners association board's approval. Further, those representatives signing on behalf of an entire apartment, condominium, or townhouse complex shall indicate their title, position, or ownership status as well as the number of occupied dwelling units being represented on the petition.

Step 8: Conduct Public Meeting With the Transportation & Parking Commission

Following the successful completion of Step 7 ("Circulate Petition"), the proposed traffic calming project will be considered in a public meeting conducted by the city's Transportation & Parking Commission. Based upon the findings and recommendations of the Traffic & Transportation Section—including input from the Police and Fire departments—and any comments/information provided by local/affected residents, the Transportation & Parking Commission will either approve or disapprove the project as presented. If approved, the project will continue in the process to Steps 9 and 10 as discussed below. If disapproved, no further action will occur unless the requestor elects to appeal said decision to the City Council (or requests staff's development of a different traffic calming project, thereby returning to Step 5 above).

Step 9: Include Traffic Calming Project on City-Wide Traffic Calming Priority List

The Traffic & Transportation Section will maintain a City-Wide Traffic Calming Priority List. This list will be used to determine the order of installation of "competing" traffic calming projects in the event sufficient funding is **not** available to proceed with all approved projects.

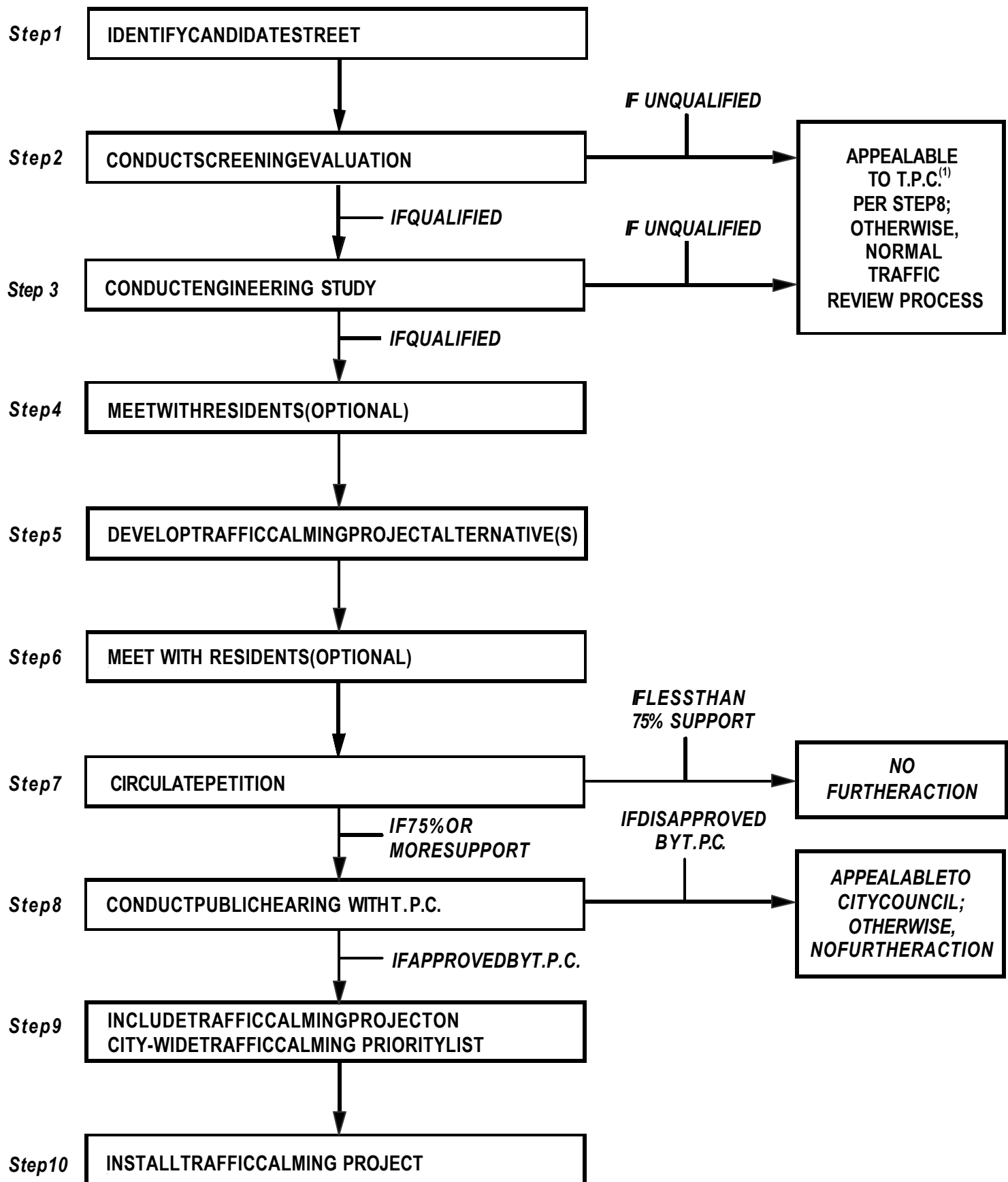
Unless there is an overriding consideration such as a high incidence of speed-related accidents and/or a street's 85th-percentile speed on an average weekday is 35 MPH or greater, priorities will be established by multiplying (a) the percentage of vehicles exceeding the 25 MPH speed limit on an average weekday by (b) the volume of traffic on an average weekday on the street under consideration. The street with the highest numerical value resulting from this multiplication will be considered to have the highest priority. (As an example, a street carrying 1,700 vehicles per day in which 20 percent of said vehicles travel 26 MPH or greater would have a higher priority (i.e., a Ranking Value of $(1,700) \times (0.20) = 340$) than a street carrying 2,200 vehicles per day in which only 15 percent of said vehicles travel 26 MPH or greater (i.e., a Ranking Value of $(2,200) \times (0.15) = 330$).)

An approved petition/project will be kept on the installation "waiting list" for up to three years from the date of approval (by either the Transportation & Parking Commission or the City Council). After that date, the petition must be recirculated and made current (with updated signatures) per Step 7 above.

Step 10: Install Traffic Calming Project

Once funding is available, the approved traffic calming project shall be installed by the city as expeditiously as possible. (Note: The process to remove a traffic calming project is similar to installation; specifically, upon receipt of a petition supporting the removal and the concurrence of the Transportation & Parking Commission, the city will remove the installation as expeditiously as possible and as funds allow.)

NEIGHBORHOOD TRAFFIC CALMING PROGRAM PROCESS



(1) City of Glendale Transportation & Parking Commission

CITY OF GLENDALE

NEIGHBORHOOD TRAFFIC CALMING PROGRAM IMPLEMENTATION CRITERIA AND DESIGN GUIDELINES

The Neighborhood Traffic Calming Program provides implementation criteria and design guidelines concerning its traffic control measures and roadway design features. However, it should be understood that these are not absolute standards, i.e., in certain instances, it may not be feasible to fully adhere to these criteria and guidelines, in which case engineering judgment of the City of Glendale staff will supersede said criteria and guidelines.

CITY OF GLENDALE

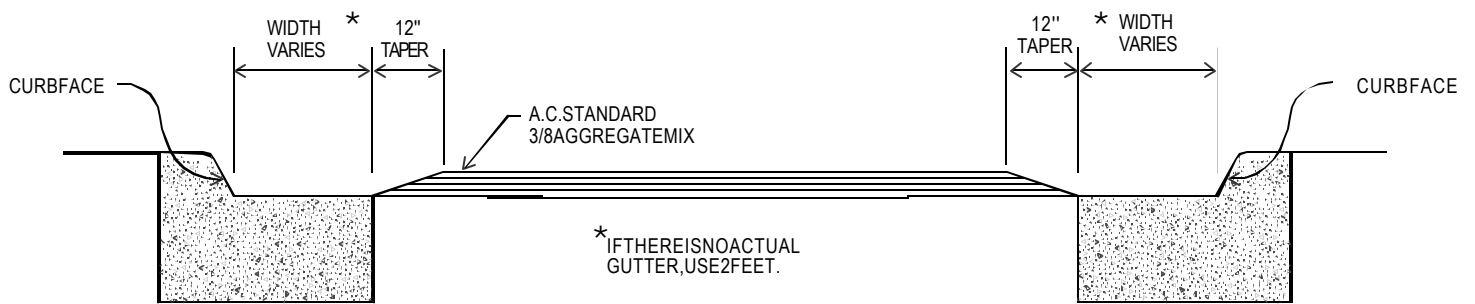
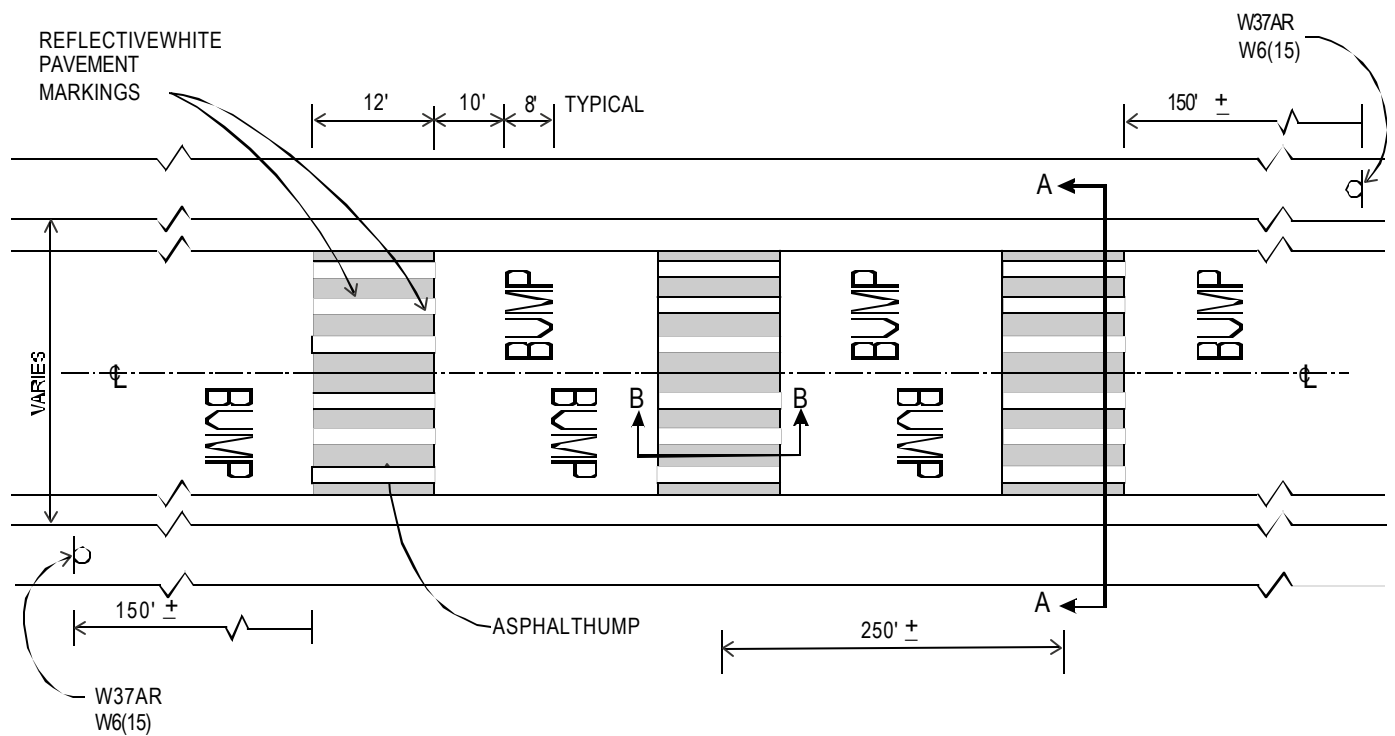
SPEED HUMP AND SPEED LUMP IMPLEMENTATION CRITERIA AND DESIGN GUIDELINES

The following criteria and guidelines shall be utilized to determine where speed humps and speed lumps may be considered for installation in the City of Glendale:

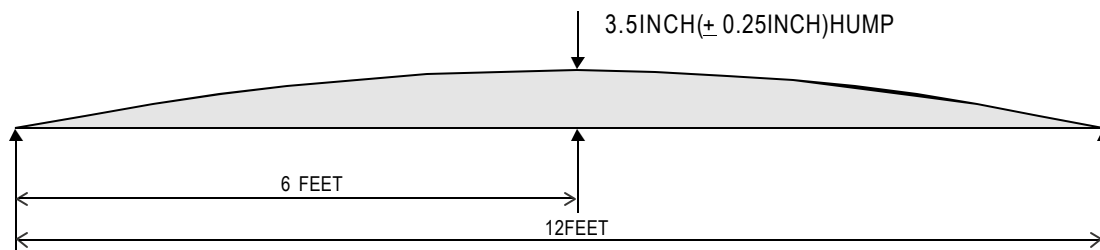
1. Speed humps and speed lumps shall only be considered for installation on streets meeting the following criteria:
 - a. The street shall be designated either a local street, a neighborhood collector street, or a community collector street in the most current edition of the *City of Glendale Circulation Element of the General Plan*.
 - b. The street shall be located in a "residence district" as defined in the *California Vehicle Code*.
 - c. The street shall not have more than one through travel lane in each direction.
 - d. The street shall contain raised curbs and have a curb face-to-curb face width of 40 feet or less.
 - e. The street's speed limit (posted or *prima facie*) shall be no greater than 25 MPH as determined by state law.
 - f. The street's vehicular traffic volume shall be at least 1,000 vehicles but not more than 10,000 vehicles (total of both directions) per day on an average weekday.
 - g. The street's 85th-percentile speed of traffic on an average weekday shall be at least 30 MPH; however, if the 85th-percentile speed on an average weekday is at least 35 MPH, Criterion 1.f's lower bound shall be waived, i.e., speed humps or lumps may be considered for streets with traffic volumes less than 1,000 vehicles per day.
 - h. The minimum block length shall be 500 feet measured between the nearside face of curbs of the two intersecting streets (at each end of the block).
 - i. The street shall not have a gradient of more than 8 percent.
 - j. The street shall not be a truck route or a public transit route.
 - k. If the street is an important route for emergency vehicles, i.e., a Fire-designated primary emergency response route, only speed lumps shall be considered.
2. Speed humps and speed lumps shall be designed per the following guidelines:
 - a. The design and installation of speed humps, speed lumps, and associated traffic control devices shall conform to standards established by the City of Glendale Public Works Division, Traffic & Transportation Section.
 - b. In profile view along the centerline of the street, a **speed hump** and a **speed lump** shall be curvilinear (parabolic); 12 feet in length; and 3.5 (\pm 0.25 inch) inches in height. (Refer to Exhibits 1 and 2, respectively.)
 - c. In plan view across the entire street, a **speed hump** shall maintain a uniform height to a point approximately three feet from the face of curb. Within this approximately 3-foot segment, the speed hump shall taper to be flush with the joint of the gutter. (Refer to Exhibit 1.)
 - d. In plan view across the entire street, a **speed lump** shall maintain a uniform height except for the incorporation of two "cut outs" (same elevation of street, plus tapers) symmetrically located on each side of the speed lump's mandatory painted double-yellow centerline. The uniform height shall extend to a point approximately three feet from the face of the curb. Within this

approximately 3-foot segment, the speed lump shall taper to be flush with the joint of the gutter. (Refer to Exhibit 2.)

- e. The pavement markings and signage for speed humps and speed lumps shall be as indicated on Exhibit 1 and Exhibit 2, respectively.
- f. The street's horizontal and vertical curvature shall provide at least 200 feet of clear visibility on approaches to speed humps and speed lumps.
- g. Speed humps and speed lumps shall be located not less than 200 feet or more than 450 feet apart.
- h. Speed humps and speed lumps shall not be located within 10 feet of driveways, manholes, fire hydrants, and other utilities.
- i. The approach speed at the location of the first speed hump or speed lump shall be effectively controlled via a physical design feature to the satisfaction of the Traffic & Transportation Administrator.
- j. All contractors shall install speed humps and speed lumps in compliance with traffic control guidelines specified by the Traffic & Transportation Administrator.
- k. The installation of speed humps and speed lumps shall occur only on weekdays between the hours of 8:00 AM and 6:00 PM unless otherwise approved by the Traffic & Transportation Administrator.



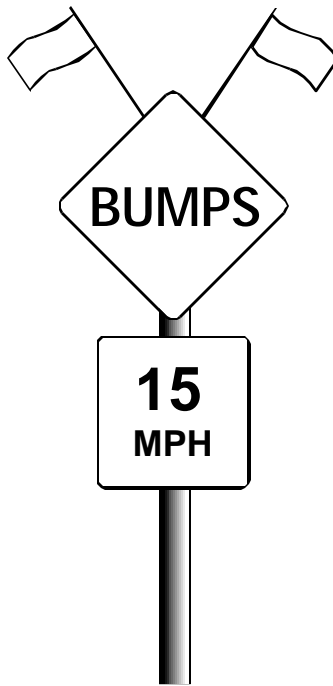
SECTION A-A



SECTION B-B

SPEED HUMP DESIGN STANDARDS

EXHIBIT 1A



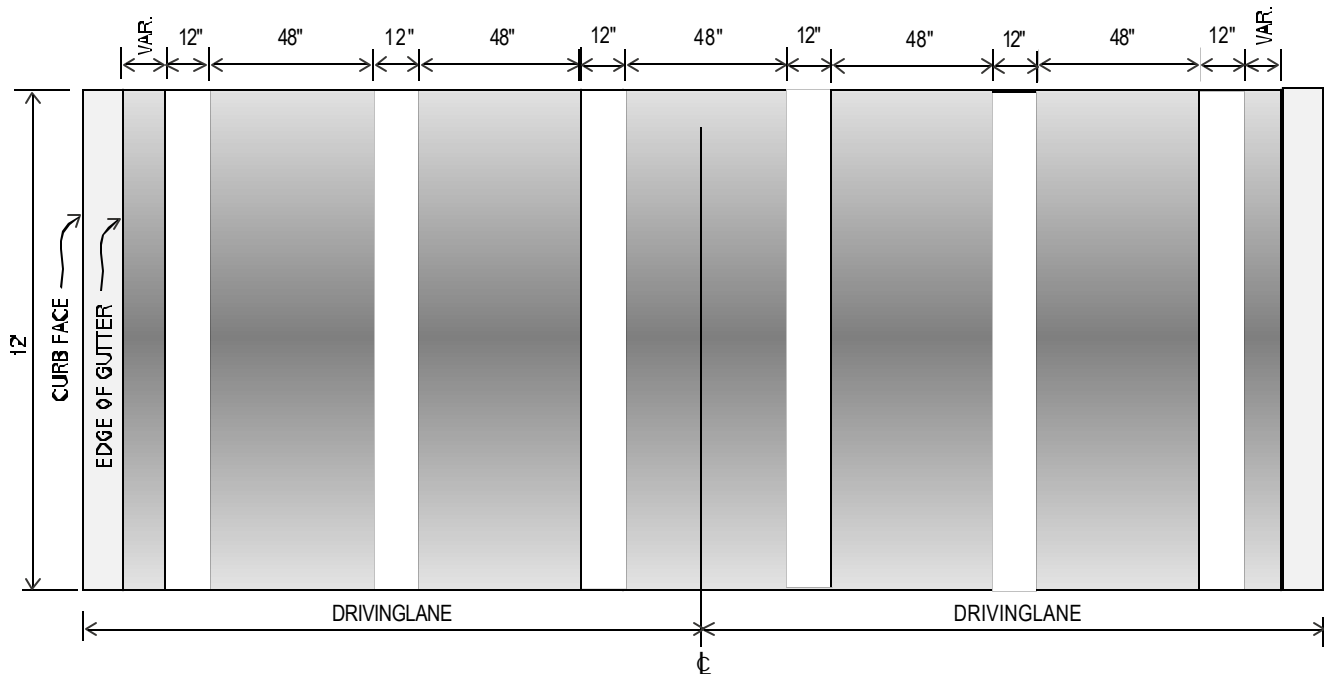
WARNING FLAGS
(FIRST WEEK)

30"X30"W37AR
WARNING SIGN
BLACK ON YELLOW
6" SERIES "E" LETTERS

W6(15) SIGN

EXACT SIGN LOCATIONS
SHALL BE DETERMINED
BY CITY TRAFFIC &
TRANSPORTATION
ADMINISTRATOR

ADVANCE SIGNING



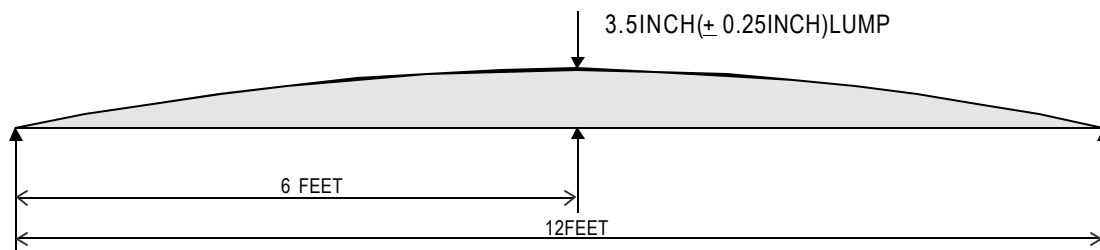
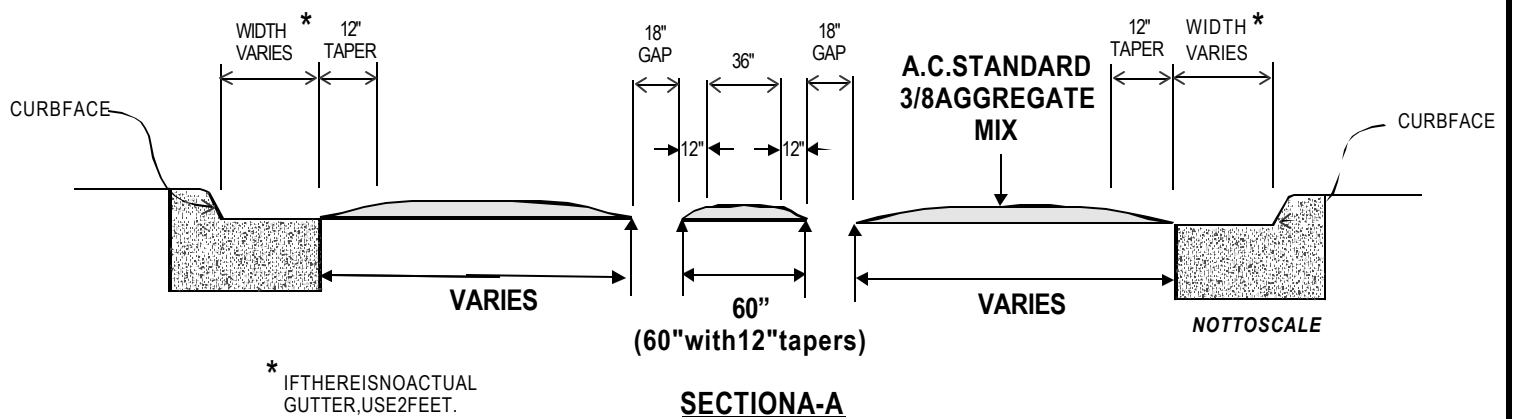
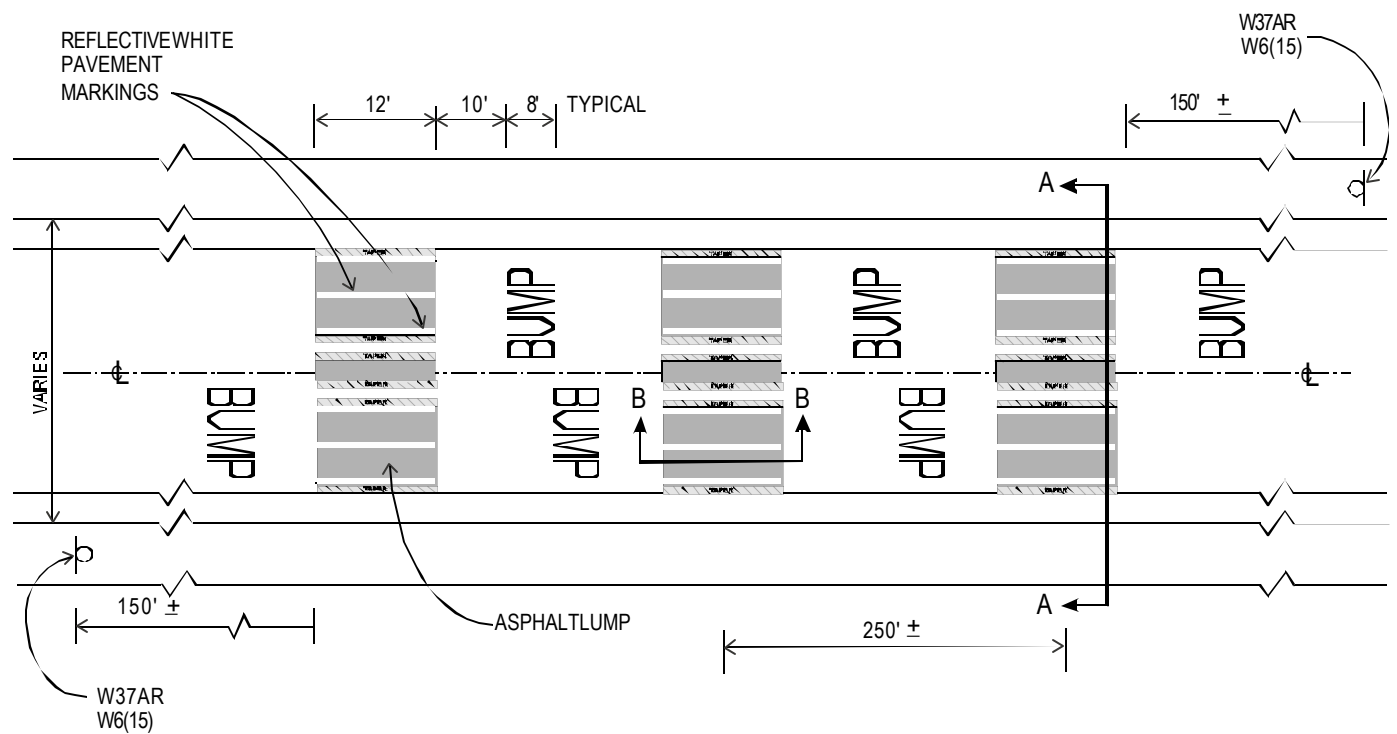
SPEED HUMP MARKING

SPEED HUMP INSTALLATION DETAILS

1. SPEED HUMP SHALL NOT BE PLACED OVER MANHOLES, WATER GATES, JUNCTION CHAMBERS, ETC.
2. EDGE OF SPEED HUMP SHALL BE 10 FEET MINIMUM FROM EDGE OF DRIVEWAY.
3. WHERE POSSIBLE, SPEED HUMP SHALL BE PLACED AT PROPERTY LINES INSTEAD OF MID-LOT.
4. WHERE POSSIBLE, SPEED HUMP SHALL BE PLACED ADJACENT TO STREET LIGHTS.
5. EXACT LOCATION OF SPEED HUMP SHALL BE DETERMINED BY CITY TRAFFIC & TRANSPORTATION ADMINISTRATOR.

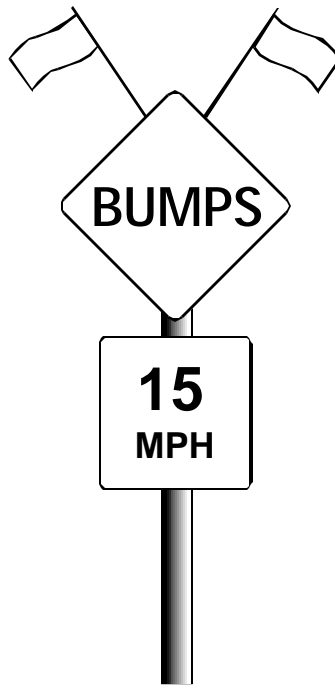
SPEED HUMP DESIGN STANDARDS

EXHIBIT 1B



SPEED LUMP DESIGN STANDARDS

EXHIBIT 2A



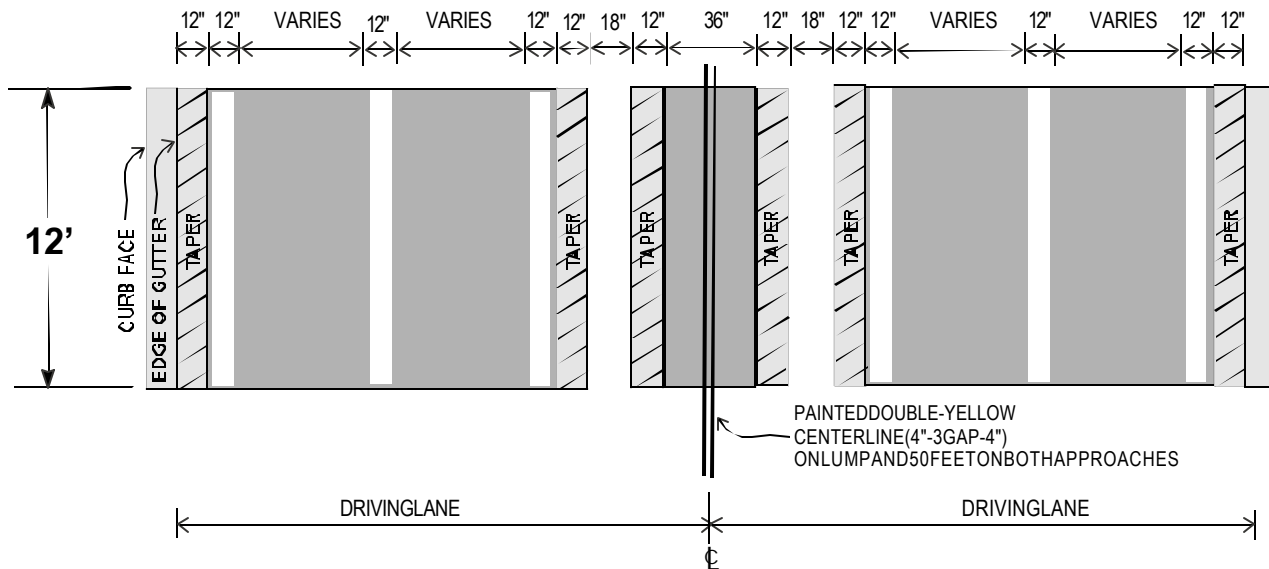
WARNING FLAGS
(FIRST WEEK)

30"X30"W37AR
WARNING SIGN
BLACK ON YELLOW
6" SERIES "E" LETTERS

W6(15) SIGN

EXACT SIGN LOCATIONS
SHALL BE DETERMINED
BY CITY TRAFFIC &
TRANSPORTATION
ADMINISTRATOR

ADVANCE SIGNING



SPEED LUMP MARKING

SPEED LUMP INSTALLATION DETAILS

1. SPEED LUMP SHALL NOT BE PLACED OVER MANHOLES, WATER GATES, JUNCTION CHAMBERS, ETC.
2. EDGE OF SPEED LUMP SHALL BE 10 FEET MINIMUM FROM EDGE OF DRIVEWAY.
3. WHERE POSSIBLE, SPEED LUMP SHALL BE PLACED AT PROPERTY LINES INSTEAD OF MID-LOT.
4. WHERE POSSIBLE, SPEED LUMP SHALL BE PLACED ADJACENT TO STREET LIGHTS.
5. EXACT LOCATION OF SPEED LUMP SHALL BE DETERMINED BY CITY TRAFFIC & TRANSPORTATION ADMINISTRATOR.

SPEED LUMP DESIGN STANDARDS

EXHIBIT 2B

CITY OF GLENDALE

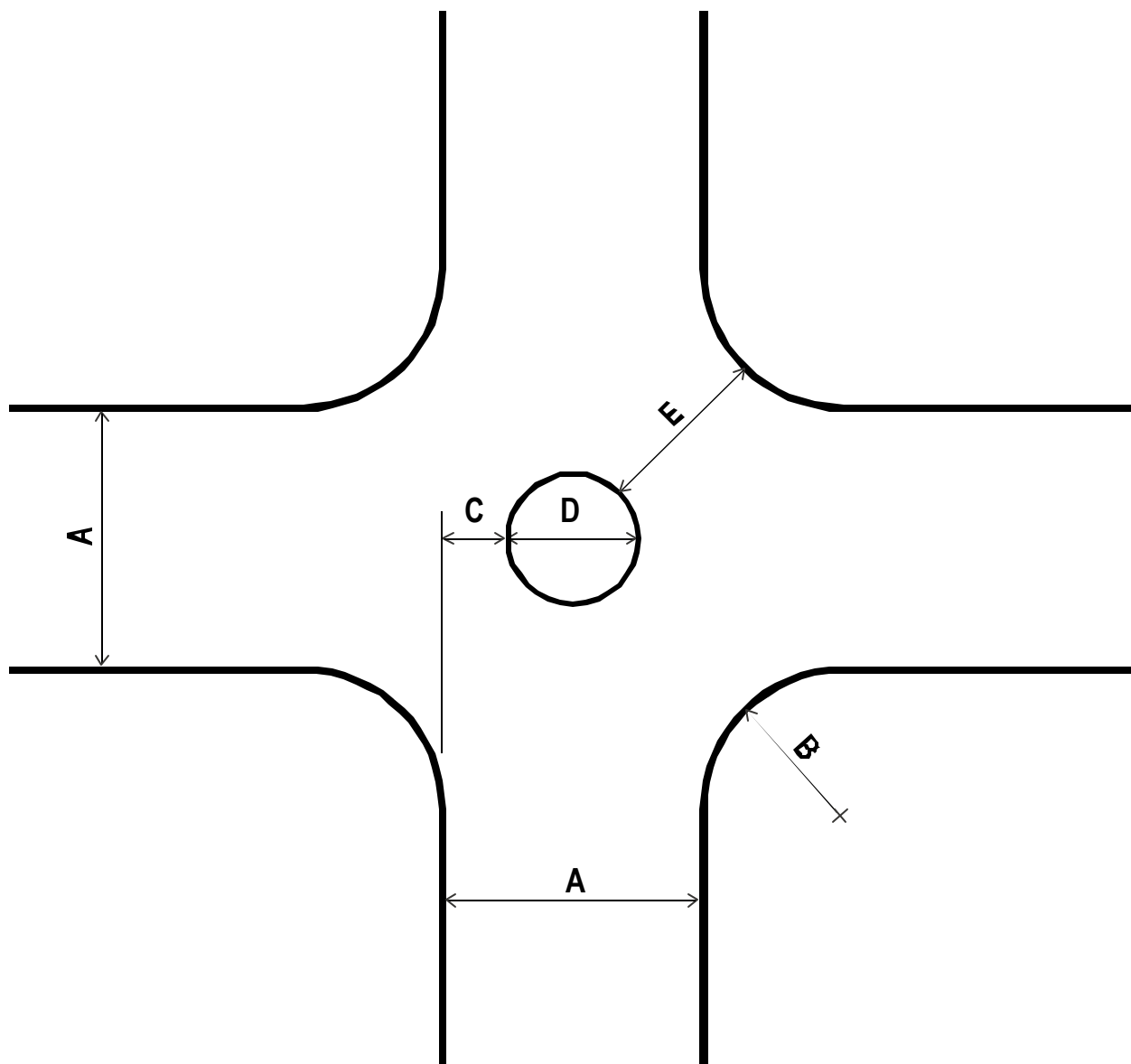
TRAFFIC CIRCLE IMPLEMENTATION CRITERIA AND DESIGN GUIDELINES

The purpose of these design criteria is to provide a traffic circle that will reduce traffic speeds while allowing for the movement of large vehicles through the intersection. These design criteria also will provide the largest possible traffic circle to allow maximum landscaping for beautification (as funding allows) and to visually warn drivers of the obstruction.

There will be cases where these design criteria cannot be totally followed and/or where one or more curb returns have to be reconstructed. Some of these cases occur where intersecting streets are of different widths and/or where one or more of the intersecting streets are offset or angled. There also will be situations requiring that special attention be given to landscape and aesthetic considerations. In these cases, engineering judgment will be used in following the design criteria as closely as possible, with traffic safety and operation of prime concern.

The following design criteria apply (refer to Exhibit 3 for an explanation of terminology):

1. The distance between a traffic circle and the street curb projection (offset distance C) shall be determined based upon intersection geometry.
2. The width between a traffic circle and a curb return (opening width E) shall be determined based upon intersection geometry.
3. As the offset distance decreases, the opening width shall increase based upon intersection geometry.
4. The outside 2 feet of the traffic circle shall be constructed with a mountable monolithic cement concrete curb.
5. Traffic circles shall be landscaped when funding is available.
6. Where landscaping is installed, traffic circles less than 15 feet in diameter may have one tree centered (along with other plantings). Traffic circles greater than or equal to 15 feet in diameter may have three trees equally spaced and set back 4 feet from the curb face (along with other plantings).



INTERSECTION DIAGRAM

LEGEND:

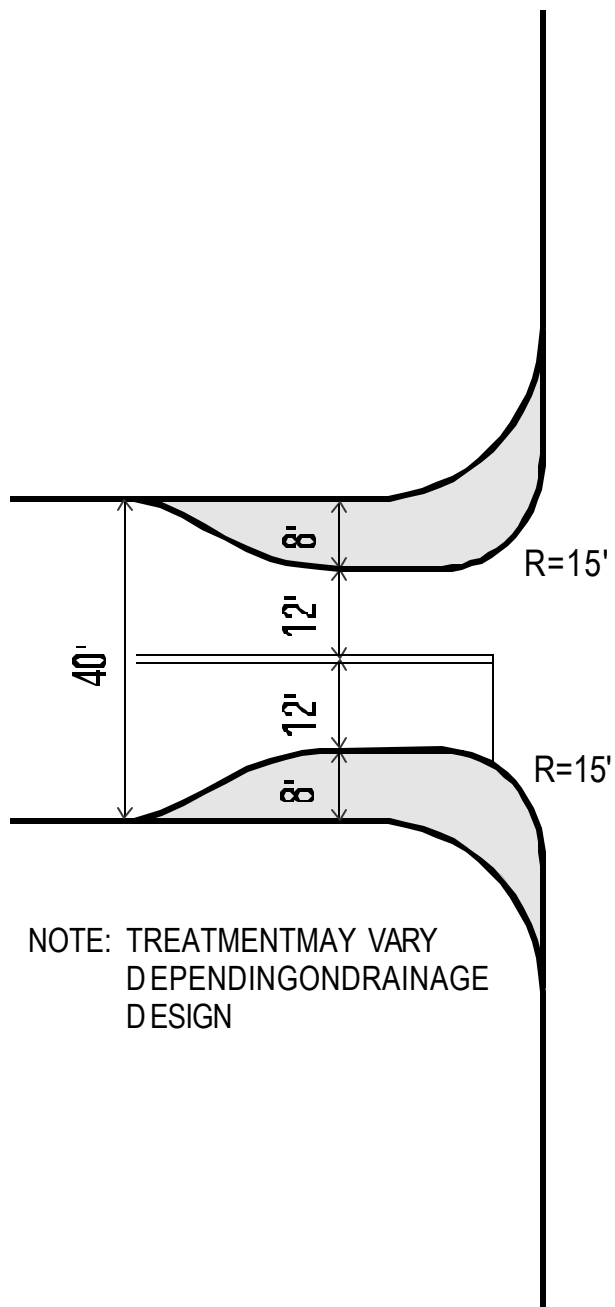
- | | |
|----------|-------------------|
| A | STREETWIDTH |
| B | CURB RETURNRADIUS |
| C | OFF-SETDISTANCE |
| D | CIRCLE DIAMETER |
| E | OPENINGWIDTH |

CITY OF GLENDALE

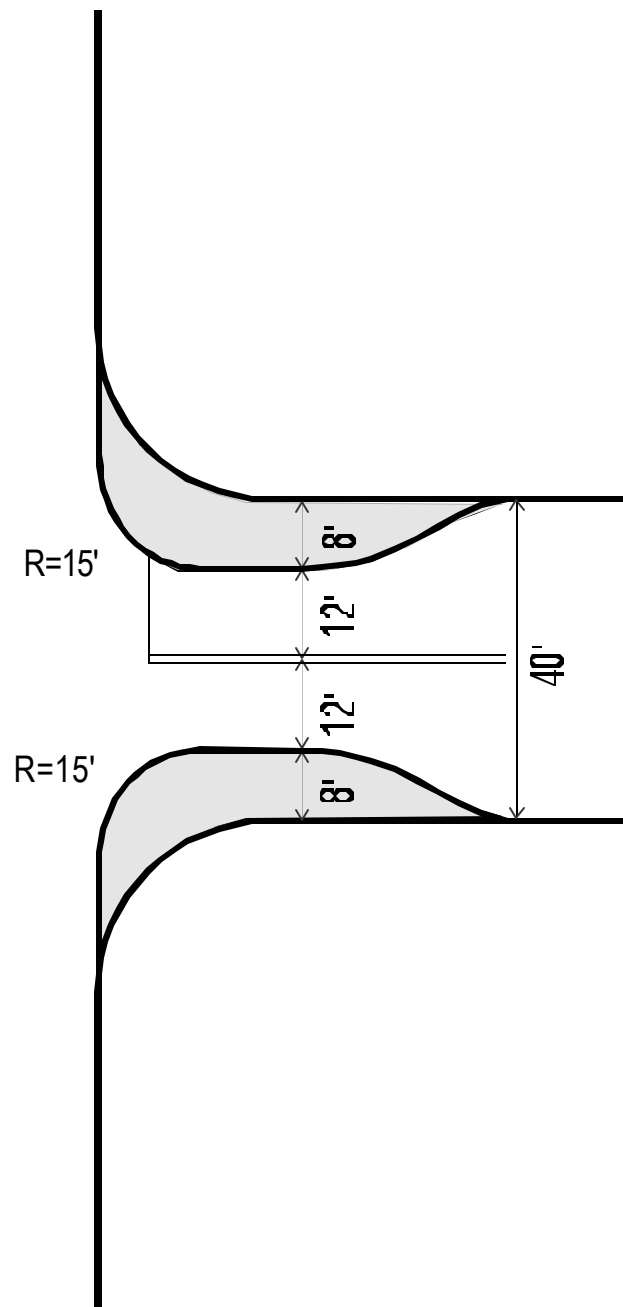
STREET CHOKER, DIVERTER, AND CHANNELIZATION TRAFFIC CALMING DEVICES

Exhibit 4 illustrates the conceptual design of a choker at an intersection. Chokers may also be installed at mid-block locations.

Exhibits 5, 6, and 7 conceptually illustrate the use of partial and full diverters. These exhibits demonstrate some, but not all, design options.

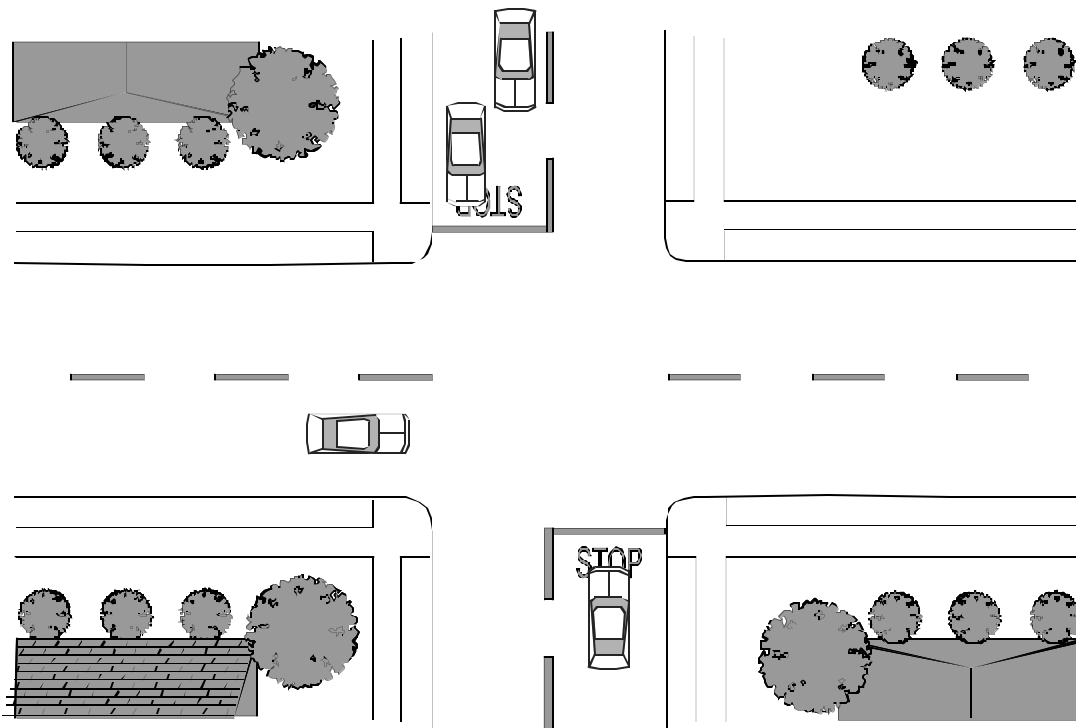


NOTE: TREATMENT MAY VARY
DEPENDING ON DRAINAGE
DESIGN

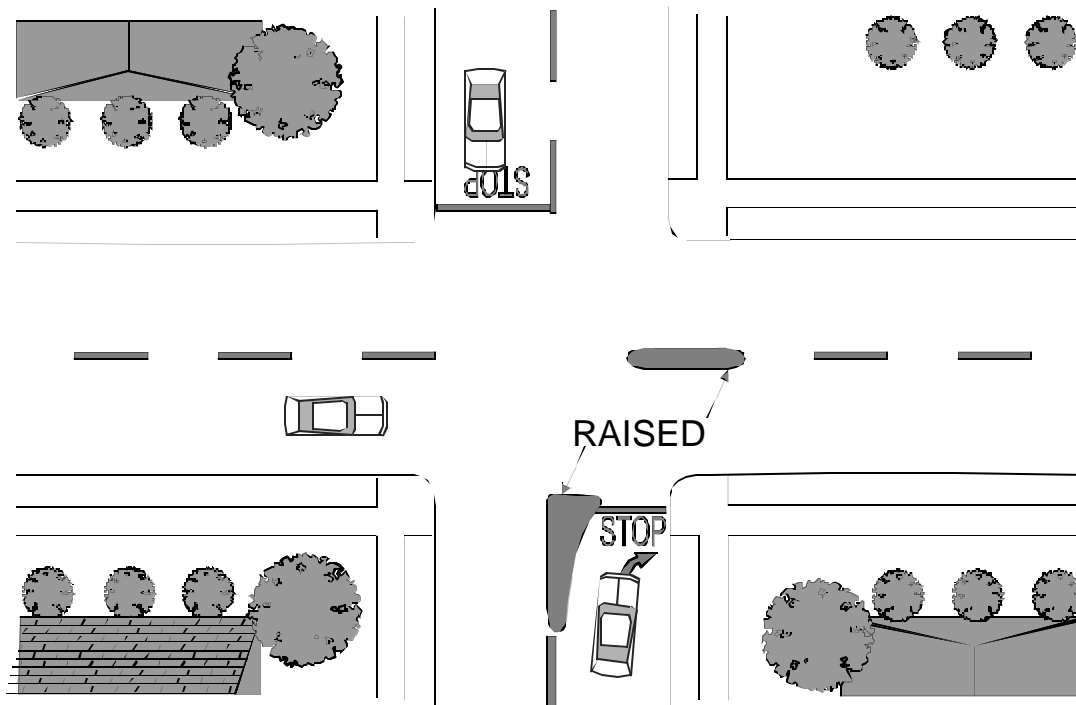


INTERSECTION CHOKER DESIGN

EXHIBIT 4



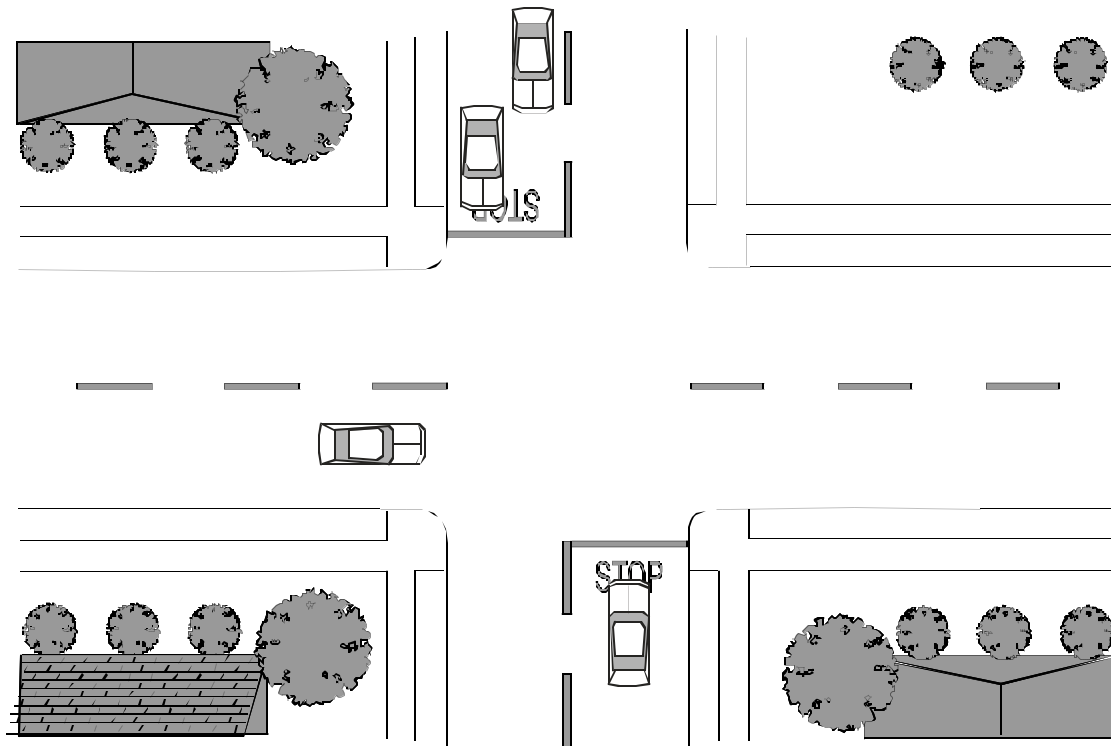
BEFORE



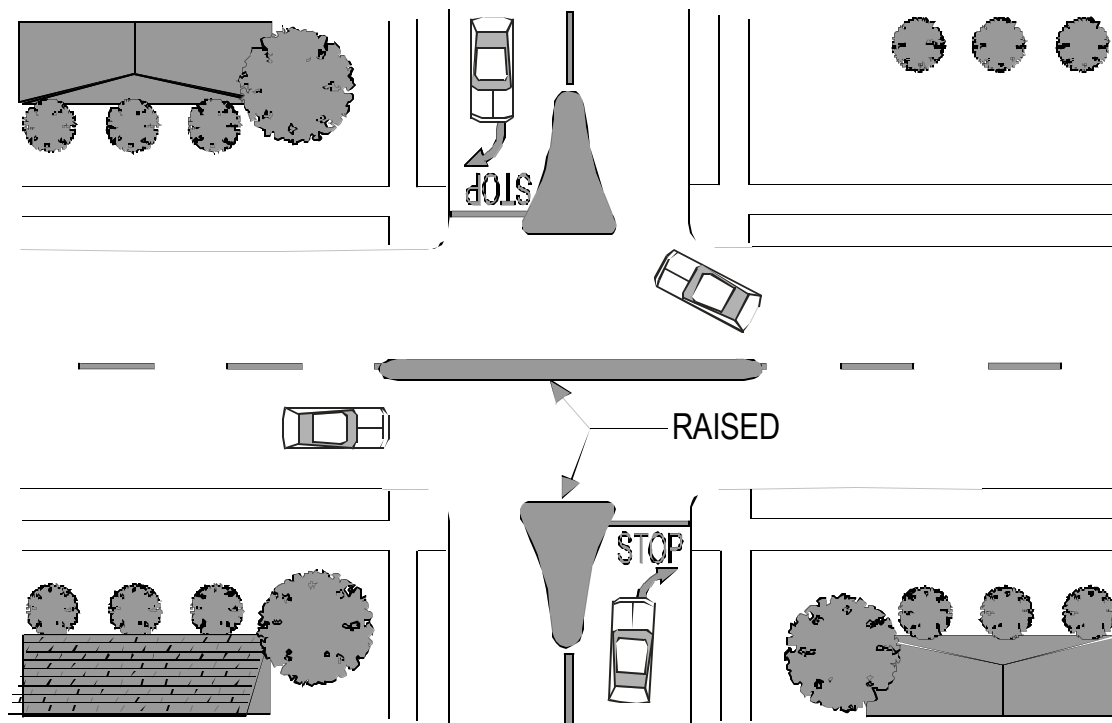
AFTER

PARTIAL-DIVERTER DESIGN (MINOR)

EXHIBIT 5



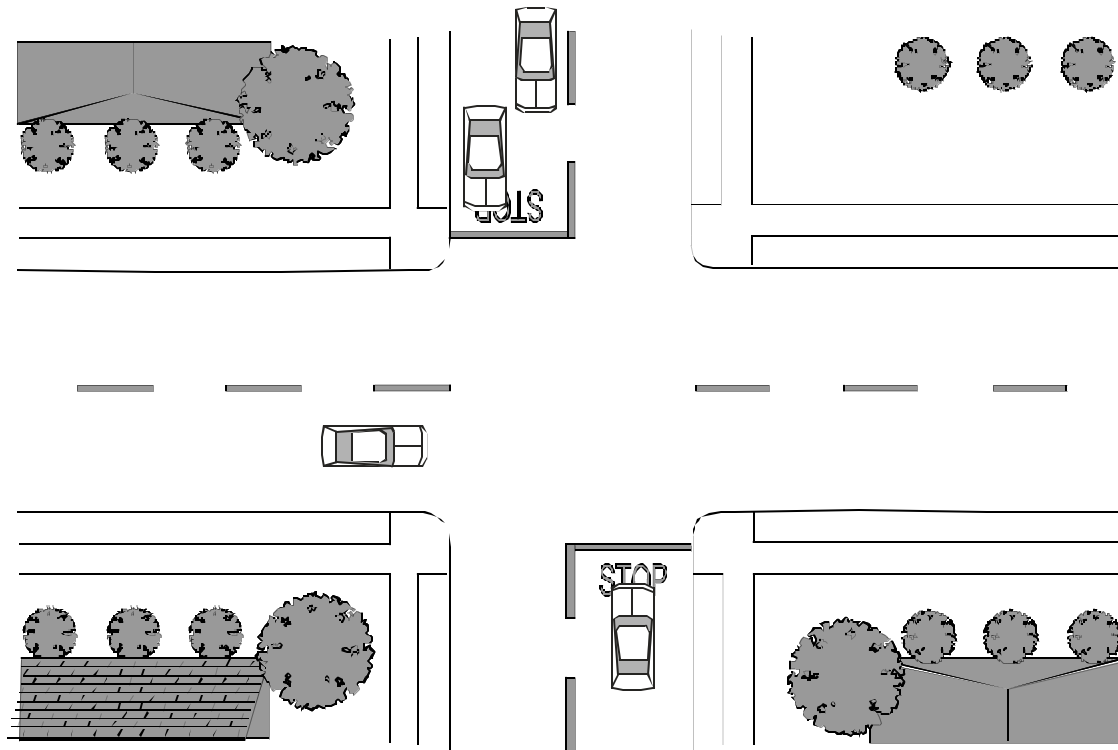
BEFORE



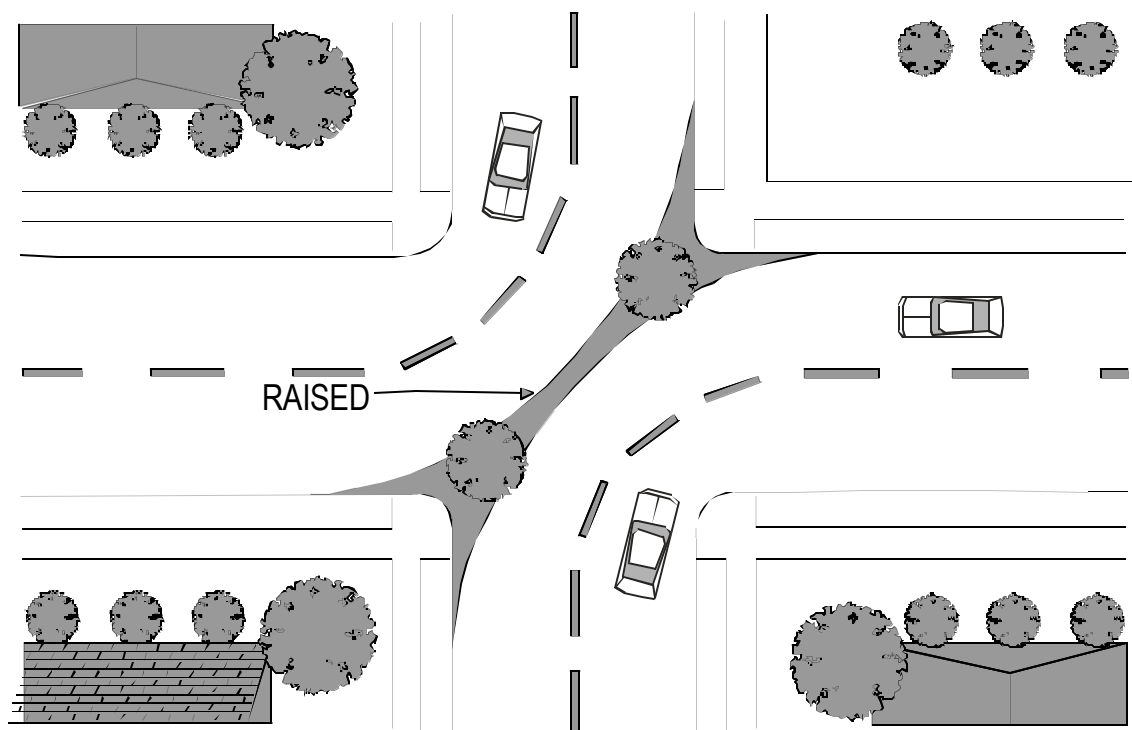
AFTER

PARTIAL-DIVERTER DESIGN (MAXIMUM)

EXHIBIT 6



BEFORE



AFTER

FULL-DIVERTER DESIGN

EXHIBIT 7